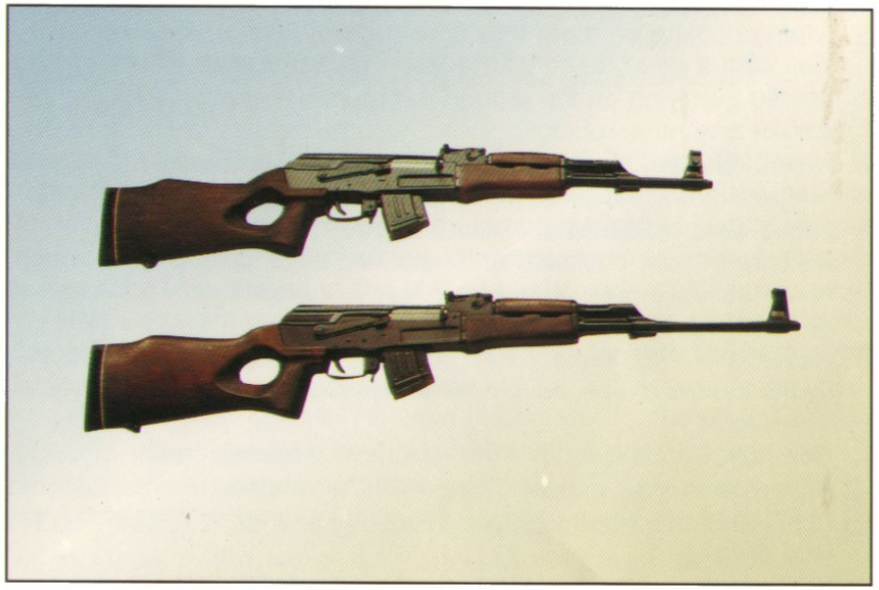
# INSTRUCTION MANUAL

## MODEL MAK-90
## SEMI-AUTOMATIC RIFLE

Warning: Before using this firearm, read carefully and follow these instructions.



This instruction manual contains important warnings which should be read and understood before using firearms. This instruction manual should always accompany this firearm and be transferred with it upon change of ownership.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## SAFETY RULE WARNINGS

1. Always empty guns before carrying into house, car, truck, R,V., boat, etc. Never climb a tree, or fence, or wall while carrying a loaded gun.
2. Don't "horseplay" with a gun. Your gun can't think-but you can. Firearms safety depends on you.
3. Always load or unload guns with muzzle pointing at the ground.
4. Wear fluorescent orange vest, hat, and jacket when in the woods or fields. Always wear protective shooting glasses and ear protection when shooting on the range boat, or in a field, or forest.
5. Never let a gun rest against a tree , fence or wall. Never leave a loaded gun lying on the ground or propped against a rock, tree , car, or any other object.
6. Never leave a gun unattended. Never leave a gun where it could fall and accidentally discharge.
7. Never assume that a gun is unloaded.
8. Be sure of your backstop and what lies beyond before you shoot.
9. Never accept a gun without opening it to check for yourself whether or not it is loaded.
10. Never take a gun out of a car, boat, or R.V. by pulling it toward you by the muzzle. Never have a loaded gun in a house, car, boat, R.V., truck, etc.
11. Use only standard loads from reputable manufacturers.
12. Always load your gun only when on the range or in the field and ready to shoot. when you stop shooting , unload before leaving the field or range.
13. Store guns and ammunition separately and BEYOND THE REACH OF CHILDREN.
14. Never put your hand over the muzzle of a gun. Never shoot at flat hard surfaces or at the surface of water.
15. Never pull the trigger unless shooting at a target or unless you have checked to make sure whether the gun was unloaded.
16. Should a gun fail to discharge after trigger has been pulled, keep gun pointing at target for at least 30 seconds. Sometimes a slow burning primer will not ignite promptly and properly and cause a "hang fire".
17. Write to us concerning any items or circumstances which might relate to your safety and the operation of any of our products.
18. Get instructions from a competent firearms instructor before using any gun.
19. Check ammunition to see if it is the right size.
20. Never take alcohol, drugs, or medications immediately before or during shooting activities.
21. Alterations of trigger pull will usually alter sear engagement and can cause accidental discharge.
22. Reloaded cartridges can be dangerous to you and to your gun.
23. Spectators should always be at least 10 feet in back of and not in line with the breech of any gun when you are shooting.
24. Always keep your finger off the trigger until you are ready to shoot.
25. Never rely on a gun's "safety" to compensate for unsafe gun handling. A safety is only a mechanical device,it is not a substitute for good common sense.

## GENERAL CONSTRUCTION AND METHOD OF OPERATION

Your MAK-90 is a semi-automatic or self-loading, magazine fed repeating rifle. Gas pressure generated by the fired cartri dge is utilized to drive the rifle's gas piston system to automatically effect spent case ejection, recocking of hammer/trigger mechanism, and the loading of a fresh round from the magazine to the barrel chamber. A single shot will be fired with each pull of the trigger, until both magazine and chamber are empty. The trigger must be fully released forward before it can be pulled again to fire a succeeding shot.

Solid steel construction is used throughout for the operating components, with the exception of the stocks, which are either wood or high strength, heat resistant synthetic material.

***WARNING:*** Before firing this rifle, be absolutely certain there are no obstructions in the barrel bore and chamber, such as grease, mud, snow or cleaning patches, etc. Also check your ammunition to determine that it is in good condition and that it is the correct caliber and specific type of commercial manufacture intended for this gun. The proper caliber description (stamped on the left receiver wall of the rifle) is 7.62x 39mm centerfire.

## NOMENCLATURE (III.I)

1. Front Sight
2. Gas Tube Latch Lever
3. Rear Sight
4. Bolt/Charging Handle
5. Safety Lever

6. Butt Stock
7. Trigger
8. Magazine Catch & Release
9. Magazine
10. Forearm

| Special date: | | |
|---|---|---|
| Barrel length | 16" | 19" |
| Overall length | 905mm | 973mm |
| Weight with one empty magazine | 3.5kg | 3.6 kg |
| Muzzle velocity | 710m/s | 730m/s |
| Rate of fire | 40 rds/minute | |
| Effective range | 400m | |
| Maximum range | 2000m | |
| Rear sight range | 800m | |
| Service rifle | 6000 rds | |
| Accuracy (20 rds) | R50=70mm | R50=50mm |
| | R100=160mm | R100=140mm |

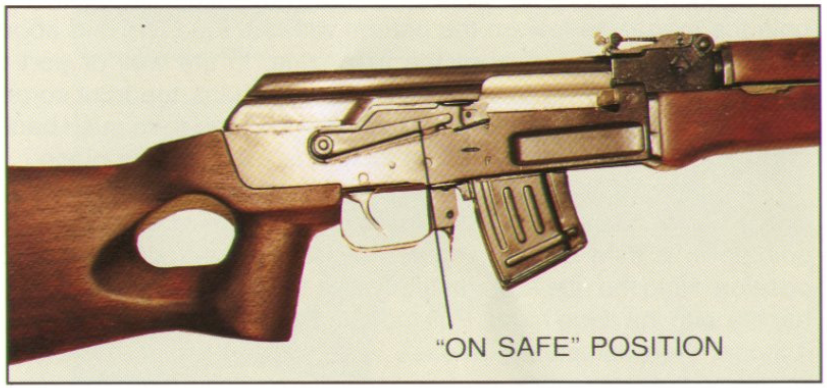
## MANUAL SAFETY OPERATION

This rifle is equipped with a manually operated safety device in the form of a long pivoted lever located on the right hand side of the receiver, Illustrations II & III. When set in the upper "safe" position a letter S on the receiver is visible just forward of the tip of the lever, III.II. In this safety position the trigger is blocked from being pulled to release the hammer and fire the rifle. In addition, it serves two other functions when "on safe"; it prevents foreign matter from entering the mechanism through the bolt handle slot in the receiver cover and also prevents the handle being pulled far enough to the rear to pick up and feed a round from a loaded magazine into the empty barrel chamber.

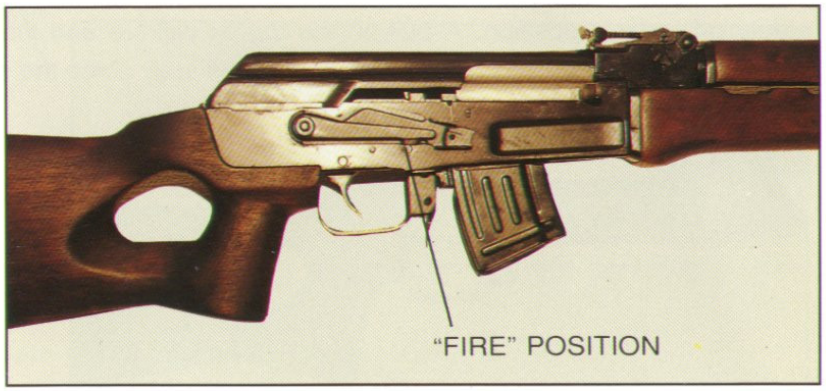
To set to "fire" position, the lever must be pushed downward with the thumb until it clicks to a stop. Again, a letter indicating that the safety is in "fire" mode will be visible just forward of the lever tip, III.III. The trigger may now be pulled to fire the rifle as described previously.

CAUTION: Unless you are actually firing or plan to do so immediately, the safety lever should be kept in "on safe" position regardless of whether the rifle is loaded or unloaded.

III.II




III.III



## LOADING THE MAGAZINE

Your MAK-90 is fed by a detachable steel box magazine with a maximum capacity of 5 cartridges or rounds.

To charge or fill the magazine, hold it in either hand with the open top of magazine lips visible above the top of your hand. Place a cartridge full length between the two lips (bullet end to the front of the magazine) and press down firmly with the thumb until the round snaps into place and is held within the magazine beneath the feed/retaining lips. Take care to be sure that the bullet tip does not protrude beyond the front end of the magazine when inserting it. Repeat this process for the desired number of rounds or until the magazine has reached maximum capacity.

## LOADING THE RIFLE (III.IV)

When inserting a loaded magazine in the rifle, you must first always observe these safety precautions.

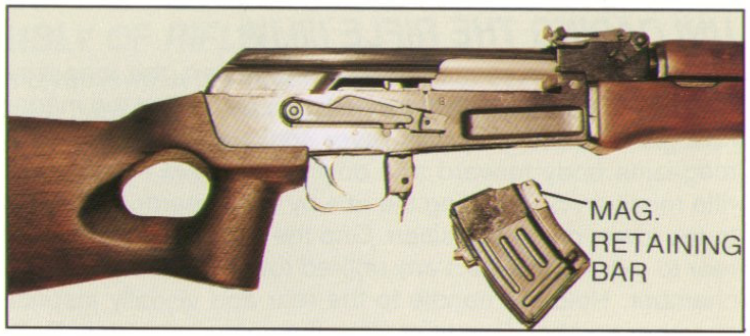
1. Be sure the rifle muzzle is pointed forward and down towards the ground in a safe direction ahead of you.
2. Push the safety lever to the upper, or "on safe' position.

Grasp the rifle by the forearm with either hand. With the other hand, hold the magazine toward the bottom with the feed lips end above the top of the hand. Now insert the magazine in the well or port in the bottom of the receiver forward of the trigger guard, top front corner first, to engage the magazine forward retaining bar and then push backward and up until the magazine catch locks the magazine in place.

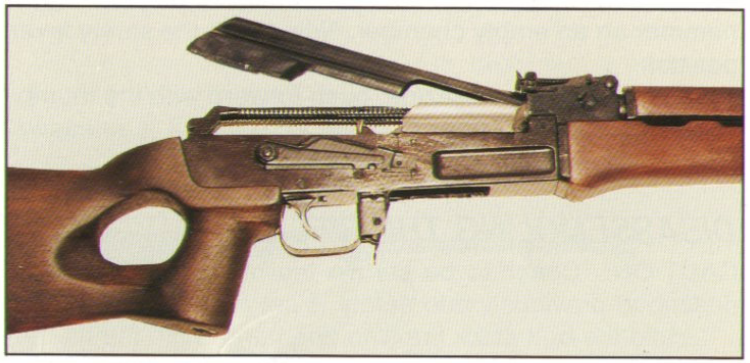
To fire the rifle, a round must first be introduced from the magazine to the barrel chamber. With a loaded magazine in place and muzzle pointed in a safe direction, push the safety lever down to the "fire" position. Hold the rifle forearm firmly with the off hand and grasp the bolt handle with the firing hand. Pull the handle smartly, fully to the rear until it stops, then completely release it, allowing it to spring forward and chamber a round.

WARNING: At this point the rifle is fully loaded and armed with the safety off to "fire" position. A pull on the trigger will fire and instantly reload the gun. If you do not intend to fire immediately place the safety lever to "safe" position.

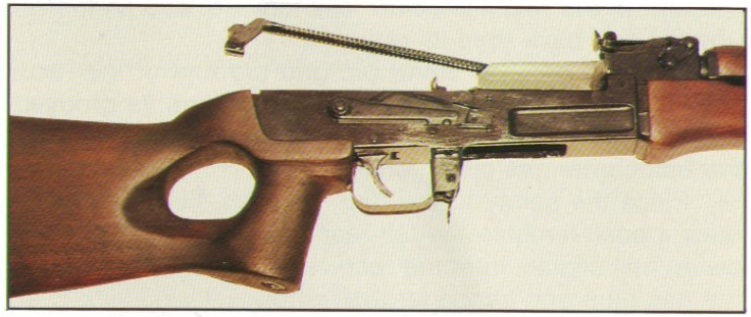
III.IV




III.V



III.VI



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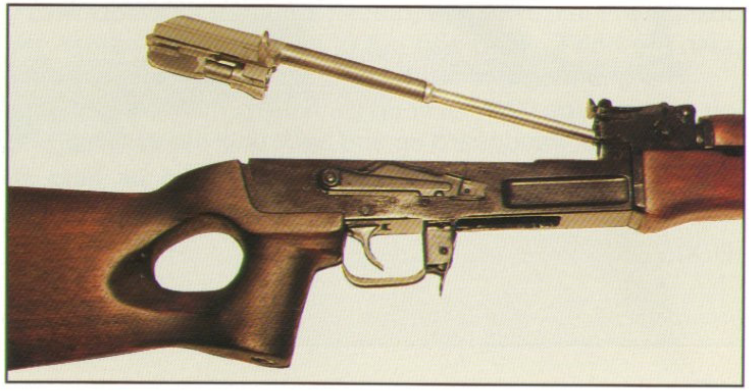


## UNLOADING THE RIFLE (III.IV)

With the rifle pointed in a safe direction, the magazine is gripped with the firing hand,with the thumb placed behind the magazine release lever. While pressing this lever forward simultaneously sweep the magazine body forward and down to remove the magazine from the rifle receiver. Still holding the rifle by the forearm, push the safety lever to the lower or "fire" position. Grip the bolt handle and pull it fully to the rear to extract and eject any unfired round that may remain in the barrel chamber. Hold the handle to the rear and visually inspect both barrel chamber and bolt face to confirm the unloaded status. Release the bolt handle and while pointed in a safe direction,pull the trigger to drop the hammer on an empty chamber. Now, push the safety lever to "on safe" position.

To unload the magazine, push forward with the thumb on the base of each cartridge (opposite bullet end) until it is released by the feed lips.

## DISASSEMBLING THE RIFLE (IIIs,V,VI,VIII, IX, X)

CAUTION: Check to be certain the rifle is fully unloaded loaded as described previously and safety is set to "safe" position.

Hold the butt stock firmly in one hand. With the thumb of the other hand, push the end of the recoil guide and spring unit projecting from the rear of the receiver cover fully forward, and lift the receiver cover upward and back from its rear end. (III.V)

With the receiver cover off, grip the end of the recoil guide and spring unit, and push it forward until it clears its grooved seat in the receiver. Lift it up slightly and pull it straight back to remove the unit from the bolt carrier/gas piston unit (III.VI)

Place the safety to the "fire" position. Grasp the bolt handle and draw it back firmly to the full rear of its travel. Lift the bolt carrier/gas piston unit slightly from the receiver and draw it to the rear and out of the gas tube and handguard assembly. (III.VII).

To remove the bolt from the bolt carrier, push the bolt to its rear position in the carrier and rotate it a quarter turn clockwise (right). Then push the bolt forward and out of its bore in the carrier. (III.VIII).

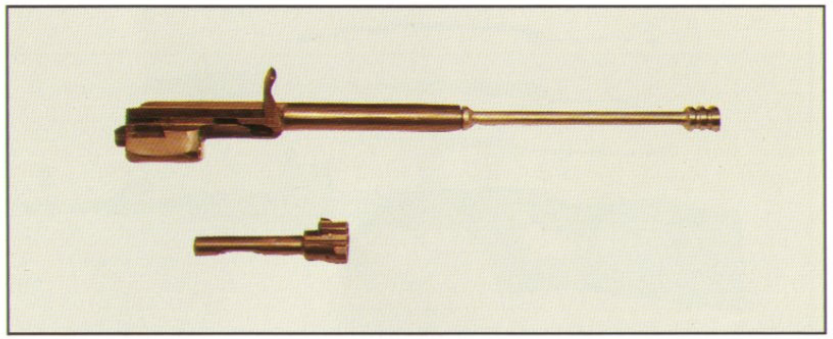
The gas tube and handguard assembly may be removed by rotating the gas tube latch lever up (with the provided disassembly tool) and pulling rear of handguard up and back until the assembly is free. (III.IX).

This complete what is commonly known as field stripping. No further disassembly is recommended except by a qualified gunsmith. (III.X).

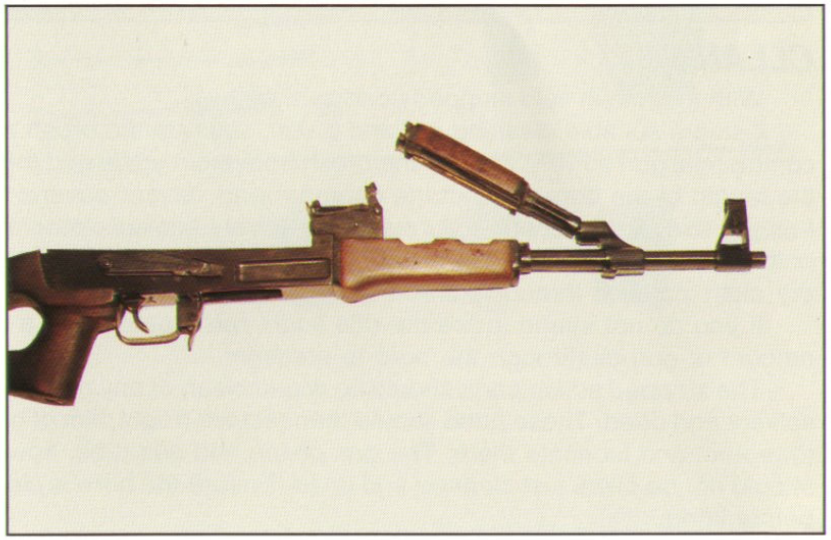
## REASSEMBLY OF RIFLE

Reassembly follows in the exact reverse sequence of disassembly steps. To insure trouble-free reassembly, we recommend that you pay close attention to the exact location and position of parts during disassembly, for ease of reassembly.

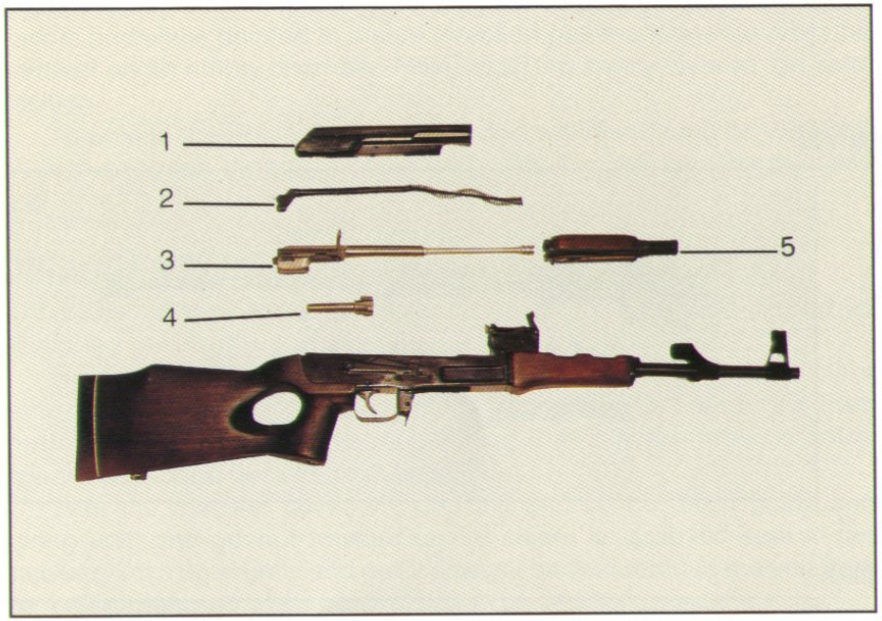
III.VIII



III.IX.



1. RECEIVER COVER
2. RECOIL GUIDE & SPRING UNIT
3. BOLT CARRIER/GAS PISTON UNIT
4. BOLT
5. GAS TUBE & HANDGUARD




## CLEANING

With the rifle in field stripped condition:

Using a suitable cleaning rod and brush, saturate the brush with a commercial gun solvent and run the brush from the muzzle end through the length of the bore and out the chamber end; repeat several times. Follow this same procedure but substitute solvent-soaked cloth cleaning patches for the brush. When the bore and chamber are clean, run dry cloth patches through to remove the solvent film.

If you do not intend to fire the rifle soon, run a patch with a small amount of gun oil through the bore to preserve it.

The stripped action parts should be wiped clean of any residue with solvent and dried. These parts should then receive a light film of gun oil to protect and lubricate them. The gas piston and gas tube, however, should not be oiled; just cleaned and dried. Ensure the bore is cleaned before firing.

All exterior metal surfaces should be periodically wiped clean and lightly oiled.

## ACCESSORIES AVAILABLE

1. Sling
2. Oiler
3. Gas-Hole Rod
4. Screwdriver
5. Brush
6. Cleaning Kit
7. Accessory Box
8. Cleaning Rod
9. 5 Round Magazine
10. Manual